

## Acquisition Strategy - an Update



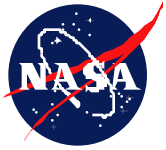
- | **INDUSTRY PARTNERS COMPETITIVELY SELECTED UNTIL THE MANUFACTURING PRIME CONTRACTOR IS SELECTED**
  - **2 PRE-A AND PHASE A STUDIES**
  - **NEXUS ITA DESIGN IS PART OF THE PHASE B/C/D SELECTION CRITERIA**
- | **AD HOC SCIENCE WORKING GROUP (ASWG) AND SWG SELECTED COMPETITIVELY**
- | **SCIENCE OPERATIONS CENTER: DESIGNATION OF ST SCI BY OSS ANTICIPATED IN FY 98-99**
- | **SCIENCE INSTRUMENT STUDIES PROCURED COMPETITIVELY VIA RFO**
  - **ESA HAS AGREED TO RUN A PARALLEL SET OF STUDIES**
  - **SI MAKE/BUY DECISION TO BE MADE DURING THE PHASE A STUDY AND BASED ON THE RESULTS OF THE INDUSTRY ARCHITECTURE STUDIES, ESA STUDIES AND THE GSFC IN-HOUSE STUDY**
- | **WORKING ASSUMPTION IS THAT THE NGST OBSERVATORY SYSTEM INCLUDING LAUNCH VEHICLE PROCURED USING A PERFORMANCE BASED CONTRACT (PBC)**
  - **GOVERNMENT WORK PACKAGES POSSIBLE -TBD**
  - **CONTRIBUTIONS FROM INTERNATIONALS TBD**



## Acquisition Strategy (cont'd)



- | **TECHNOLOGY DEVELOPMENT WILL BE DONE IN PARTNERSHIP WITH INDUSTRY**
  - **MIX OF PROCUREMENT VEHICLES (NRA, RFO, SBIR/STTR, IRFD)**
- | **FLIGHT VALIDATION PATHFINDER**
  - **ISIS IS A GOVERNMENT-LED STRETCH TECHNOLOGY FLIGHT TEST ON A DARA SUPPLIED SPAS CARRIER WITH POTENTIAL INDUSTRY COLLABORATION**
  - **NEXUS IS A PHASE B FLIGHT TEST OF A SUBSCALE ITA ACCOMPLISHED VIA A GOVERNMENT-INDUSTRY PARTNERSHIP ON A SPARTAN 400 CARRIER**



# Project Manager Challenges to the Team

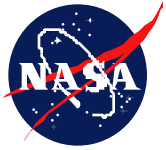


## I OPERABILITY

- **DEFINE THE NEXT PARADIGM SHIFT (NOT EVOLUTIONARY PROGRESSION) IN THE OPERATING ENVIRONMENT OF NGST AND VALIDATE IT TO THE EXTENT POSSIBLE THROUGH A COMBINATION OF SIMULATION AND EXPERIMENT ON NEXUS**
- **CONCEPTUALIZE AND DEFINE THE NEXT GENERATION MODELING TOOLS, AND FACTOR IN CODE SM AND CODE A INVESTMENTS AT ARC, JPL, AND LARC**
- **CREATE A VISION OF THE NGST SCIENCECRAFT**

## I MODELING & SIMULATION

- **ARTICULATE YOUR VISION OF THE COMPUTER TOOLS AND PROCESSING ENVIRONMENT REQUIRED TO ACHIEVE A HIGH FIDELITY, 3-D SIMULATION OF AN IN-FLIGHT NGST**
- **DEFINE THE HARDWARE/SOFTWARE ARCHITECTURE REQUIRED TO PERFORM AN NGST "SIM"**



## Challenges (cont'd)



### | TECHNOLOGY DEVELOPMENT

- PRODUCE A MINIMUM OF 2 VIABLE LIGHTWEIGHT MIRROR CANDIDATES BY JAN 1999
- DEMONSTRATE CLOSE LOOP WAVEFRONT CONTROL IN THE DCATT BASELINE TESTBED SYSTEM BY JAN 1999
- PUBLISH A TECHNOLOGY ADDENDUM TO THE 1997 BOOK

### | SYSTEMS ENGINEERING

- INSTITUTE ELECTRONIC TRACKING OF REQUIREMENTS AT ALL CENTER FACILITIES, TRACEABLE TO THE LEVEL 1 REQUIREMENTS

### | FLIGHT VALIDATIONS

- MAINTAIN THE PARTNERSHIPS NEEDED TO ACCOMPLISH ISIS FOR < \$4M AND LAUNCH IN 2000
- LAY THE APPROPRIATE GROUNDWORK FOR DESIGNING NEXUS TOTALLY BY COMPUTER IN A TIME CONCURRENT ENGINEERING ENVIRONMENT
  - PASS THIS REQUIREMENT ON TO ALL PARTNERS/VENDORS



## Challenges (cont'd)



### I COST & PROCESSES

- CRAFT A POSITION PAPER ON THE SIRT/NGST COST DISCREPANCY
- CREATE A DRAFT SOW ON THE WEB FOR THE PHASE C/D PBC COMPETITION

### I MECHANICAL SYSTEMS

- BREAK THE MECHANISM-ADVERSE SYSTEMS DESIGN PARADIGM AND RE-DEFINE THE WAY COMPLEX SPACECRAFT ARE DESIGNED AND BUILT